Promotional student mobility network reveals the academic hierarchy and educational inequalities

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Abstract

University education plays a major role in training high-skilled labor and provides a promising path to disrupt the lasting effects of disadvantages. Despite enormous efforts on understanding how education affects post-graduation career mobility, little is known about mobility patterns and potential inequalities at earlier stages of the education pipeline. Based on a large-scale online resume dataset, here we build a promotional student mobility network, capturing student flows from undergraduate to graduate universities in China. Our analysis of this mobility network conveys several findings. First, we find evidence for the academic hierarchy, where the promotional mobility of students is highly stratified, and the ranking of the undergraduate university attended conditions the ranking of the graduate university. Second, while a mechanism model can reproduce the observed patterns, it appears to suggest student's cost-benefit decision-making in pursuing quality education. Third, elite schools in China are highly concentrated in developed cities, showing geographic inequalities in education. Meanwhile, we find that university prestige moderates student mobility such that the positive effect of the city economic gap on student flows is pronounced when the university prestige gap is small. Our results plant a picture of educational stratification and help understand inequalities amid the academic hierarchy.

Keywords: Educational inequality; Academic hierarchy; Student mobility; Network science; Computational social science